

**Commonwealth of Virginia
Department of Environmental Quality
Northern Virginia Regional Office
Fredericksburg Satellite Office**

STATEMENT OF LEGAL AND FACTUAL BASIS

Facility Information

Permittee Name: Gordonsville Energy, L. P.
115 Red Hill Road
Gordonsville, Virginia

Facility Name: Gordonsville Energy, L. P.
115 Red Hill Road
Gordonsville, Virginia 22942

Registration No.: 40808
Permit No.: FSO40808
AIRS ID No.: 51-109-0040

Authority

Title V of the 1990 Clean Air Act Amendments require each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Gordonsville Energy, L. P. (GELP) has applied for a Title V Operating Permit for its cogeneration, combined cycle combustion turbine facility in Louisa County, near Gordonsville, Virginia. The Department has review the application and has prepared a draft Title V Operating Permit.

Facility Description

The GELP facility manufactures electricity and is covered by Standard Industrial Classification Code (SIC) 4911 titled Electrical Services. GELP is an intermediate load, dispatchable, cogeneration plant that produces electricity for sale to Virginia Dominion Electric and produces steam for a host plant. Excluding insignificant emission units, the following equipment is located at this facility:

- two GE Frame 7EA Combustion Turbines (CT) (Emission Unit ID#s I-A and II-A) each rated at 1335×10^6 Btu per hour on natural gas or 1191×10^6 Btu per hour on Numbers 1 and 2 distillate fuel oil when operated at an ambient temperature of 0°F. Each CT is rated at 1154×10^6 Btu per hour on natural gas or 1026×10^6 Btu per hour on Numbers 1 and 2 distillate fuel oil when operated at an ambient temperature of 59°F. Each CT is subject to 40 CFR 60, Subpart GG. Annual operation of the facility is based on conditions at 0°F for 25% of the operational year and at 59°F for 75% of the operational year. Each CT/generator unit is nominally rated at 80 MW electrical output;
- two heat recovery steam generators (HRSG) with supplementary firing duct burners (DB) (Emission Unit ID#s I-B and II-B), each rated at 174.7×10^6 Btu per hour on natural gas, and 166.6×10^6 Btu per hour on No. 1 and No. 2 distillate fuel oil, based on the higher heating value (HHV) of each fuel. The DBs are subject to 40 CFR 60, Subpart Db;
- one auxiliary boiler (Emission Unit ID# III), rated at 22×10^6 Btu per hour on natural gas and Numbers 1 and 2 distillate fuel oil, is subject to 40 CFR 60, Subpart Dc;
- one on site 5,000,000 gallon capacity storage tank (Emission Unit ID# TK-101) for storage of Numbers 1 and 2 distillate fuel oil is subject to 40 CFR 60 Subpart Kb;
- two steam turbines and associated generators, each nominally rated at 40 MW electrical output;

Control Devices

Each CT is equipped with control systems to reduce nitrogen dioxide (NO_x) emissions. A selective catalytic reduction (SCR) control system uses a precious metal catalyst and ammonia to reduce NO_x emissions generated by the CTs and HRSG/DBs. Additionally, the CTs use dry low-NO_x burners to burn natural gas fuel and use water injection when burning numbers 1 and 2 distillate fuel oil to reduce NO_x emissions. NO_x emissions from the auxiliary boiler are controlled by using low-NO_x burners. Sulfur dioxide emissions are controlled by burning fuels that contain low sulfur content, such as 1) natural gas and 2) distillate oil containing 0.05% or less sulfur content by weight.

Installed on the exhaust stack of each CT are direct compliance NO_x and CO continuous emission monitor system (CEMS). Each NO_x CEMS is subject to 40 CFR Part 75 requirements. Each CO CEMS is subject to 40 CFR Part 60 requirements.

The Title V permit is based on the conditions contained in a May 15, 2003, new source review permit. State only enforceable conditions are excluded from the Title V permit at the permittee's request.

Emissions Summary

PLANTWIDE EMISSIONS SUMMARY (TONS PER YEAR)		
Criteria Pollutant	Permitted Emissions	2001 Emissions
Particulate Matter (PM10)	50.6	21.8
Nitrogen Oxides (as NO ₂)	245.0	50.0
Carbon Monoxide (CO)	249.9	33.1
Sulfur Dioxide (SO ₂)	249.9	19.6
Volatile Organic Compounds (VOC)	97.1	33.3

Appendix A contains a copy of the 2001 Annual Emissions Statement and Certification Form for Gordonsville Energy, L. P.

Title V Program Applicability Basis

The facility has the potential to emit 50.6 tons/year of particulate matter, 245.0 tons/year of nitrogen oxides, 249.9 tons/year of carbon monoxide, 249.9 tons/yr of sulfur dioxide, and 97.1 tons/year of volatile organic compounds. Due to this facility's potential to emit over 100 tons/year of a criteria pollutant, the GELP power station is required to have an operating permit pursuant to Title V of the federal Clean Air Act, as amended, and 9 VAC 5 Chapter 80 Article 1. The CTs are subject to 40 CFR 60, Subpart GG. The HRSG DBs are subject to 40 CFR 60, Subpart Db. The auxiliary boiler is subject to 40 CFR 60, Subpart Dc, and the distillate fuel oil storage tank is subject to 40 CFR 60, Subpart Kb.

Legal and Factual Basis For Draft Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permit are based upon the requirements of the Commonwealth of Virginia, Federal Operating Permit Regulation for the purposes of Title V of the Federal Clean Air Act (9 VAC 5 Chapter 80 Article 1), and underlying applicable requirements in other state and federal rules. Applicable requirement means all of the following as they apply to emission units in a Title V source:

- a. Any standard or other requirement provided for in the State Implementation Plan or the Federal Implementation Plan, including any source-specific provisions such as consent agreements or orders.
- b. Any term or condition of any preconstruction permit issued pursuant to 9 VAC 5-80-10, 9 VAC 5 Chapter 80 Article 8 (9 VAC 5-80-1700 et seq.), or 9 VAC 5 Chapter 80 Article 9 (9 VAC 5-80-2000 et seq.) or of any operating permit issued pursuant to 9 VAC 5 Chapter 80 Article 5, except for terms or conditions derived from applicable state requirements or from any requirement of the Virginia State Air Pollution Control Board's Regulations (Regulations) not included in the definition of applicable requirement.
- c. Any standard or other requirement prescribed under these regulations, particularly the provisions of 9 VAC 5 Chapter 40 (9 VAC 5-40-10 et seq.), 9 VAC 5 Chapter 50 (9 VAC 5-50-10 et seq.) or 9 VAC 5 Chapter 60 Articles 1 through 3 (9 VAC 5-60-10 et seq.), adopted pursuant to requirements of the federal Clean Air Act or under §111, 112, or 129 of the federal Clean Air Act.
- d. Any requirement concerning accident prevention under 112(r)(7) of the federal Clean Air Act.
- e. Any compliance monitoring requirement established pursuant to either §504(b) or §114(a)(3) of the federal Clean Air Act or these regulations.
- f. Any standard or other requirement for consumer and commercial products under §183(e) of the federal Clean Air Act.
- g. Any standard or other requirement for tank vessels under §183(f) of the federal Clean Air Act.
- h. Any standard or other requirement in 40 CFR Part 55 to control air pollution from outer continental shelf sources.
- i. Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the federal Clean Air Act, unless the administrator had determined that such requirements need not be contained in a permit issued under this article.
- j. With regard to temporary sources subject to 9 VAC 5-80-130, (i) any ambient air quality standard, except applicable state requirements, and (ii) requirements regarding increments or visibility as provided in Article 8 (9 VAC 5-80-1700 et

seq.) of this part.

- k. Any standard or other requirement of the acid deposition control program under Title IV of the Clean Air Act or the regulations promulgated thereunder.
- l. Any standard or other requirement governing solid waste incineration under §129 of the Clean Air Act.

Appendix B of this Statement of Basis document contains a copy of a May 15, 2003, new source review permit and supporting documentation which provide a basis for the draft Title V permit.

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 9 VAC 5 Chapter 80 Article 1 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the state but is not federally-enforceable is identified in the draft Title V permit as such.

Testing

When testing of an emission unit is required, the permittee shall coordinate the compliance test with the Air Compliance Manager (ACM), Northern Virginia Regional Office (NVRO). The permittee shall submit a stack test protocol for approval by the ACM, NVRO at least 30 days prior to the date of the compliance test.

If testing is conducted in addition to the monitoring specified in the permit, the permittee may use the following methods in accordance with procedures approved in advance by the DEQ:

Pollutant	Test Method (40 CFR Part 60, Appendix A)
NO _x	EPA Method 7E or 20
SO ₂	EPA Method 6
CO	EPA Method 10
Visible Emission	EPA Method 9

Periodic Monitoring

The CTs and HRSG DBs (Emission Unit ID#s I-A, I-B and II-A, II-B) have a 40 CFR 75 compliant NO_x CEMS and a 40 CFR 60 compliant CO CEMS installed on each exhaust

stack. The NO_x and CO CEMS are periodic monitoring and compliance demonstration devices for these emission units.

SO₂ periodic monitoring for the combustion emission units is a sulfur material balance on each emission unit. Monitoring data collected for the sulfur material balance consists of but is not limited to the following: fuel usage rate, fuel sulfur content, and fuel higher heating value (HHV). CT and HRSG/DB fuel consumption rates are monitored on a daily basis.

Periodic monitoring for PM₁₀ and VOC emissions from the CTs and HRSG DBs is the installation of 40 CFR 60 compliant CO CEMS on each exhaust stack. CO emissions are a measure of complete combustion. Higher CO emission observations typically means complete combustion is not occurring in the combustion unit, resulting in higher VOC concentrations and the formation of particulate (higher PM₁₀ emissions resulting in opacity).

Opacity periodic monitoring of the CTs, HRSG DBs, and the auxiliary boiler consists of the use of continuous opacity monitoring systems (COMS) on the exhaust stack of each emission unit. The COMS installed on the CTs, HRSG DBs, and auxiliary boiler meet the design specifications of 40 CFR 60 Appendix B and are required to be installed, calibrated, maintained, and operated in accordance with the requirements of 40 CFR 60.13, and 40 CFR 60 Appendix B.

Streamlined Conditions

Conditions 1 and 2 of the May 15, 2003, permit are streamlined from the Title V permit. State-Only Enforceable conditions are not included in the Title V permit.

Comment Period

The public notice for a thirty day comment period is scheduled to appeared in *The Central Virginian* newspaper on July 3, 2003.

Public Comment Period Beginning Date: July 3, 2003.

Public Comment Period Ending Date: August 4, 2003.

All written comments should be addressed to:

Department of Environmental Quality
Fredericksburg Satellite Office
806 Westwood Office Park

Fredericksburg, Virginia 22401

Phone: (540) 899-4508 Facsimile: (540) 899-4647

Procedure For Requesting Public Hearing

During the public comment period any interested person may submit written comments on the draft permit and may request a public hearing. A request for a public hearing shall be in writing to the above address and shall state the nature of the issues proposed to be raised in the hearing. The Director or Regional Director shall grant such a request for a hearing if he concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Appendix A

2001 Certification Form and Annual Emissions Statement for
Gordonsville Energy, L. P.

Appendix B

New Source Review Permit for
Gordonsville Energy, L. P.
Dated May 15, 2003

Applicability Determination Index, Control # 0200080
Letter From U.S. EPA to GELP, dated November 9, 2000
Applicability Determination Index, Control # 0000063
Applicability Determination Index, Control # 0100072